

Ultra-fast charging electric shuttle bus service launched by NTU and BlueSG

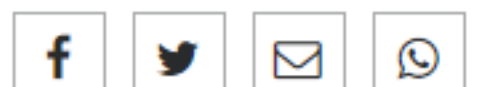
By TOH EE MING



The shuttle can travel two kilometres on a single charge, with backup power that can allow it to run for an additional 30 kilometres. Photo: Koh Mui Fong/TODAY

Published 22 JANUARY, 2018 UPDATED 22 JANUARY, 2018

83 Shares



SINGAPORE — Singapore will soon see an ultra-fast charging electric shuttle bus service operating between Nanyang Technological University (NTU) and JTC's CleanTech One.

With the help of a robotic arm that connects the top of the 22-seater shuttle bus to a charging station, the vehicle will require only 20 seconds to be recharged at stations while passengers board and alight.

The shuttle can travel two kilometres on a single charge, with backup power that can allow it to run for an additional 30 kilometres.

Named the NTU-Blue Solutions Flash Shuttle and using Bolloré's Bluetram vehicle, the shuttle was launched on Monday (Jan 22) by NTU and BlueSG.

The latter is a subsidiary of Blue Solutions owned by the Bolloré Group. BlueSG is also the operator of the first large-scale electric car-sharing service here that was launched last month.

Unlike other electric vehicles that function solely on batteries and need a greater time to be charged, the Bluetram is equipped with supercapacitors and a lithium-metal-polymer (LMP) battery developed by Blue Solutions. Supercapacitors are electrical storage components that are characterised by high power density which can be charged very quickly.

This allows the Bluetram to replicate the efficiency of trams by operating continuously without the need for offline charging.

Compared to tram systems, an electric shuttle bus network does not need costly infrastructure such as rails or cabling. The operating costs are therefore five to ten times lower.

BlueSG declined to compare the operating costs for the shuttle with that of a typical electric vehicle – which would take four to eight hours to charge – but said the shuttle costs 1 to 2 million euros (S\$1.6 million to S\$3.2 million) per kilometer to operate.

NTU President Subra Suresh said the move towards such “cutting-edge transportation technologies” is in line with its vision of being a smart campus.

“The use of electric vehicles in public transportation is growing across the world, as it shows promise of being a more efficient transportation system and in curbing greenhouse emissions,” said Prof Suresh.

“Testing it on campus, we expect that the insights and innovations developed from this research programme will benefit Singapore eventually by enhancing the first mile-last mile transportation options for everyone.”

It took two weeks to set up the trial route, which now has two stations.

For now, the shuttle will run at about 30 to 40 kmh between the two stations at NTU's residential halls at the North Hill cluster and JTC's CleanTech One, which is part of the Jurong Innovation District where special charging stations have been built. Both stops are about 1km apart.

After trials by the research team, NTU students will be able to ride the shuttle from July, though the route details and operational hours are yet to be worked out.

The joint research team – which comprises scientists from NTU's Energy Research Institute and BlueSG - will study the shuttle's on-road performance in Singapore's tropical climate, including users' behaviour, as well as how energy-saving it is on NTU's hilly terrain.

The two-year trial with BlueSG is supported by the Economic Development Board. The collaboration is also one of the key initiatives under the France-Singapore Year of Innovation, which aims to intensify cooperation on innovation between the two countries this year.

NTU said it is in talks with BlueSG to install more electric vehicle charging stations on campus.

Students, staff and faculty will be able to rent BlueSG vehicles and drive them around Singapore, before returning the vehicle to any BlueSG charging station. The public will also be allowed to drive into NTU's campus with these vehicles.

BlueSG previously said it targets to roll out 1,000 electric vehicles and 2,000 charging points by 2020.